

REGULATIONS FOR THE CONTROL AND ABATEMENT OF AIR POLLUTION
(9 VAC 5 CHAPTERS 20 AND 40)

9 VAC 5 CHAPTER 20.

GENERAL PROVISIONS.

PART II.

Air Quality Programs.

9 VAC 5-20-204. Nonattainment areas.

Nonattainment areas are geographically defined below by locality for the criteria pollutants indicated. Following the name of each nonattainment area, in parenthesis, is the classification assigned pursuant to Section 181 (a) for ozone and Section 186 (a) for carbon monoxide of the Federal Clean Air Act.

1. Ozone.

Northern Virginia Ozone Nonattainment Area (~~serious~~ severe).

Arlington County

Alexandria City

Fairfax County

Fairfax City

Loudoun County

Falls Church City

Prince William County

Manassas City

REGULATIONS FOR THE CONTROL AND ABATEMENT OF AIR POLLUTION
(9 VAC 5 CHAPTERS 20 AND 40)

Stafford County

Manassas Park City

2. All other pollutants.

None.

REGULATIONS FOR THE CONTROL AND ABATEMENT OF AIR POLLUTION
(9 VAC 5 CHAPTERS 20 AND 40)

9 VAC 5 CHAPTER 40.

EXISTING STATIONARY SOURCES.

PART II.

Emission Standards.

ARTICLE 4.

Emission Standards for General Process Operations (Rule 4-4).

9 VAC 5-40-240. Applicability and designation of affected facility.

A. Except as provided in subsections C and D of this section, the affected facility to which the provisions of this article apply is each process operation, each process gas stream and each combustion installation.

B. The provisions of this article apply throughout the Commonwealth of Virginia.

C. Exempted from the provisions of this article are the following:

1. Process operations with a process weight rate capacity less than 100 pounds per hour.

REGULATIONS FOR THE CONTROL AND ABATEMENT OF AIR POLLUTION
(9 VAC 5 CHAPTERS 20 AND 40)

2. Any combustion unit using solid fuel with a maximum heat input of less than 350,000 Btu per hour.

3. Any combustion unit using liquid fuel with a maximum heat input of less than 1,000,000 Btu per hour.

4. Any combustion unit using gaseous fuel with a maximum heat input of less than 10,000,000 Btu per hour.

D. The provisions of this article do not apply to affected facilities subject to other emission standards in this chapter.

9 VAC 5-40-250. Definitions.

A. For the purpose of the Regulations for the Control and Abatement of Air Pollution and subsequent amendments or any orders issued by the board, the words or terms shall have the meaning given them in subsection C of this section.

B. As used in this article, all terms not defined here shall have the meaning given them in 9 VAC 5 Chapter 10 (9 VAC 5-10-10 et seq.), unless otherwise required by

REGULATIONS FOR THE CONTROL AND ABATEMENT OF AIR POLLUTION
(9 VAC 5 CHAPTERS 20 AND 40)

context.

C. Terms defined.

"Combustion installation" means all combustion units within a stationary source in operation prior to October 5, 1979.

"Combustion unit" means any type of stationary equipment in which solid, liquid or gaseous fuels and refuse are burned, including, but not limited to, furnaces, ovens, and kilns.

"Heat input" means the total gross calorific value of all fuels burned.

"Manufacturing operation" means any process operation or combination of physically connected dissimilar process operations which is operated to effect physical or chemical changes or both in an article.

"Materials handling equipment" means any equipment used as a part of a process operation or combination of process operations which does not effect a physical or chemical change in the material or in an article, such as, but not limited to, conveyors, elevators, feeders or weighers.

REGULATIONS FOR THE CONTROL AND ABATEMENT OF AIR POLLUTION
(9 VAC 5 CHAPTERS 20 AND 40)

"Physically connected" means any combination of process operations connected by materials handling equipment and designed for simultaneous complementary operation.

"Process operation" means any method, form, action, operation or treatment of manufacturing or processing, including any storage or handling of materials or products before, during or after manufacturing or processing.

"Process unit" means any step in a manufacturing or process operation which results in the emission of pollutants to the atmosphere.

"Process weight" means total weight of all materials introduced into any process unit which may cause any emission of pollutants. Process weight includes solid fuels charged, but does not include liquid and gaseous fuels charged or combustion air for all fuels.

"Process weight rate" means a rate established as follows:

a. For continuous or long-run steady-state process operations, the total process weight for the entire period of continuous operation or for a typical portion

REGULATIONS FOR THE CONTROL AND ABATEMENT OF AIR POLLUTION
(9 VAC 5 CHAPTERS 20 AND 40)

of it, divided by the number of hours of such period or portion of it.

b. For cyclical or batch process operations, the total weight for a period that covers a complete operation or an integral number of cycles, divided by the hours of actual process operation during such a period.

"Reasonably available control technology" means the lowest emission limit that a particular source is capable of meeting by the application of control technology that is reasonably available, considering technological and economic feasibility.

"Rated capacity" means the capacity as stipulated in the purchase contract for the condition of 100% load, or such other capacities as mutually agreed to by the board and owner using good engineering judgment.

"Total capacity" means with reference to a combustion installation, the sum of the rated capacities (expressed as heat input) of all units of the installation which must be operated simultaneously under conditions of 100% use load.

9 VAC 5-40-310. Standard for nitrogen oxides.

A. No owner or other person shall cause or permit to be discharged from any

REGULATIONS FOR THE CONTROL AND ABATEMENT OF AIR POLLUTION
(9 VAC 5 CHAPTERS 20 AND 40)

affected facility any nitrogen oxides emissions in excess of that resultant from using reasonably available control technology.

B. Unless the owner demonstrates otherwise to the satisfaction of the board, compliance with the provisions of subsection A of this section shall be achieved for the applicable source types by the use of reasonably available control technology as defined in 9 VAC 5-40-311.

C. The provisions of this section apply to all facilities that (i) are within a stationary source in the Northern Virginia Emissions Control Area (see 9 VAC 5-20-206) and (ii) are within a stationary source that has a theoretical potential to emit ~~50~~ 25 tons per year or greater. Theoretical potential to emit shall be based on emissions at design capacity or maximum production and maximum operating hours (8,760 hours/year) before add-on controls, unless the facility is subject to state and federally enforceable permit conditions which limit production rates or hours of operation. Emissions from all facilities, including facilities exempt from any other emission standard for nitrogen oxides in this chapter, shall be added together to determine theoretical potential to emit.

D. For facilities subject to the provisions of subsection A of this section, the owners shall within three months of the effective date of the emission standard (i) notify the board of their applicability status, (ii) commit to making a determination as to what

REGULATIONS FOR THE CONTROL AND ABATEMENT OF AIR POLLUTION
(9 VAC 5 CHAPTERS 20 AND 40)

constitutes reasonably available control technology for the facilities and (iii) provide a schedule acceptable to the board for making this determination and for achieving compliance with the emission standard as expeditiously as possible but no later than ~~May 31, 1995~~; the following dates:

1. For facilities in the Northern Virginia Emissions Control Area with a theoretical potential to emit 50 tons per year or greater, May 31, 1995.

2. For facilities in the Northern Virginia Emissions Control Area with a theoretical potential to emit 25 tons per year or greater, but less than 50 tons per year, November 15, 2005.

E. For facilities to which the provisions of subsection B of this section are applicable, the owners shall within three months of the effective date of the emission standard (i) notify the board of their applicability status, (ii) commit to accepting the emission standard as reasonably available control technology for the applicable facilities or to submitting a demonstration as provided in subsection B of this section and (iii) provide a schedule acceptable to the board for submitting the demonstration no later than ~~January 1, 1994~~ the dates specified in subdivisions 1 and 2 of this subsection, and for achieving compliance with the emission standard as expeditiously as possible but no later than ~~May 31, 1995~~ the dates specified in subdivisions 3 and 4 of this subsection.

REGULATIONS FOR THE CONTROL AND ABATEMENT OF AIR POLLUTION
(9 VAC 5 CHAPTERS 20 AND 40)

1. For facilities in the Northern Virginia Emissions Control Area with a theoretical potential to emit 50 tons per year or greater, January 1, 1994.

2. For facilities in the Northern Virginia Emissions Control Area with a theoretical potential to emit 25 tons per year or greater, but less than 50 tons per year, January 1, 2004.

3. For facilities in the Northern Virginia Emissions Control Area with a theoretical potential to emit 50 tons per year or greater, May 31, 1995.

4. For facilities in the Northern Virginia Emissions Control Area with a theoretical potential to emit 25 tons per year or greater, but less than 50 tons per year, November 15, 2005.

F. No owner or other person shall cause or permit to be discharged from any facility any nitrogen oxides emissions in excess of those necessary to achieve emissions reductions identified in any attainment or maintenance plan or any other legally enforceable document submitted to the U.S. Environmental Protection Agency as a revision to the state implementation plan.

REGULATIONS FOR THE CONTROL AND ABATEMENT OF AIR POLLUTION
(9 VAC 5 CHAPTERS 20 AND 40)

1. The facilities to which the provisions of this subsection apply are facilities within the Richmond Emissions Control Area (see 9 VAC 5-20-206) identified in any attainment or maintenance plan submitted to the U.S. Environmental Protection Agency as a revision to the state implementation plan.

2. The board may establish case-by-case emission limits and other requirements as may be necessary to achieve the required emission reductions via permits, consent orders, or other legally enforceable means.

3. Facilities subject to this subsection shall be in compliance with any limits and other requirements established pursuant to subsection F 2 of this section within the timeframes established in any state plan revision, permit, or other legally enforceable document.

4. The provisions of subsections A through E of this section shall not apply to facilities within the Richmond Emissions Control Area (see 9 VAC 5-20-206).

9 VAC 5-40-311. Reasonably available control technology guidelines for stationary sources of nitrogen oxides.

A. General.

REGULATIONS FOR THE CONTROL AND ABATEMENT OF AIR POLLUTION
(9 VAC 5 CHAPTERS 20 AND 40)

Unless otherwise approved by the board, this section defines reasonably available control technology for the purposes of compliance with 9 VAC 5-40-310 A for the source types specified here.

B. Definitions.

1. For the purpose of this section and subsequent amendments or any orders issued by the board, the words or terms shall have the meaning given them in subdivision B 3 of this section.

2. As used in this section, all terms not defined here shall have the meaning given them in 9 VAC 5 Chapter 10 (9 VAC 5-10-10 et seq.), unless otherwise required by context.

3. Terms defined.

"Capacity factor" means the ratio of the average load on a machine or equipment for the period of time considered to be the capacity rating of the machine or equipment.

REGULATIONS FOR THE CONTROL AND ABATEMENT OF AIR POLLUTION
(9 VAC 5 CHAPTERS 20 AND 40)

"Combustion modification" means any change to the configuration of the burners or the firing method or mechanism of any combustion equipment for the purpose of reducing the emissions of nitrogen oxides. Acceptable combustion equipment changes within the context of this term include, but are not limited to, reburning, burners out of service, flue gas recirculation, fuel substitution, engine adjustments, engine modifications, fuel modifications and the addition of over fire air and low nitrogen oxides burner systems.

"Fossil fuel" means natural gas, petroleum, coal and any form of solid, liquid or gaseous fuel derived from such materials for the purpose of creating useful heat.

"Fuel burning equipment" means any furnace, with fuel burning equipment appurtenances thereto, used in the process of burning fuel for the primary purpose of producing heat to be utilized by indirect heat transfer or producing power. This includes facilities that are designed as boilers to produce steam or heated water and are designed to burn either fossil fuel or refuse derived fuel. It does not include such facilities if designed primarily to burn raw refuse.

"Gas turbine" means a rotary internal combustion engine fueled by liquid or gaseous fuel.

REGULATIONS FOR THE CONTROL AND ABATEMENT OF AIR POLLUTION
(9 VAC 5 CHAPTERS 20 AND 40)

"Heat input" means the total gross calorific value of all fuels burned.

"Incinerator" means any device, apparatus, equipment, or structure using combustion or pyrolysis for destroying, or reducing the volume of any material or substance.

"Internal combustion engine" means a reciprocating engine which is fueled by liquid or gaseous fuel.

"Process heater" means any fuel burning equipment which is used to produce heat for use in a manufacturing process. This term includes boilers which use a heat transfer medium other than water, but does not include drying ovens, steam generating units, or other drying apparatus.

"Rated capacity" means the capacity as stipulated in the purchase contract for the condition of 100% load, or such other capacities as mutually agreed to by the board and owner using good engineering judgment.

"Refuse derived fuel (RDF)" means fuel produced from solid or liquid waste (includes materials customarily referred to as refuse and other discarded materials) or both which has been segregated and classified, with the useable portions being put

REGULATIONS FOR THE CONTROL AND ABATEMENT OF AIR POLLUTION
(9 VAC 5 CHAPTERS 20 AND 40)

through a size reduction and classification process which results in a relatively homogeneous mixture.

"Steam generating unit" means any furnace, boiler or other device used for combusting fuel for the purpose of producing steam.

C. Definition of reasonably available control technology.

1. For the source types listed below, reasonably available control technology is defined as the emission limits specified below based upon the application of combustion modification; however, owners may elect to use any alternative control technology, provided such alternative is capable of achieving the prescribed emission limits.

a. Steam generating units and process heaters. The maximum allowable emission rate for nitrogen oxides from steam generating units and process heaters is as follows:

TABLE 4-4C

Maximum Allowable Emission Rates for Nitrogen Oxides Emissions from Steam

REGULATIONS FOR THE CONTROL AND ABATEMENT OF AIR POLLUTION
(9 VAC 5 CHAPTERS 20 AND 40)

Generating Units and Process Heaters (pounds per million Btu heat input)

Fuel Type	Firing Method		
	Face* and Tangential	Cyclone	Stokers
Coal – wet bottom	1.0	.55	N/A
Coal – dry bottom	.38	N/A	0.4
Oil or Gas or both	.25	.43	N/A
Gas only	.20	N/A	N/A

* Includes wall, opposed and vertical firing methods

b. Gas turbines. The maximum allowable emission rate for nitrogen oxides from gas turbines is as follows:

TABLE 4-4D

Maximum Allowable Emission Rates for Nitrogen Oxides Emissions from Gas Turbines

(parts per million by dry volume corrected to 15% oxygen)

REGULATIONS FOR THE CONTROL AND ABATEMENT OF AIR POLLUTION
(9 VAC 5 CHAPTERS 20 AND 40)

Fuel Type	Turbine Type	
	Simple Cycle	Combined Cycle
Gas	42	42
Oil	65/77*	65/77*

* Limit shall be 65 ppm for fuel bound nitrogen (FBN) < 0.015% and 77 ppm for FBN ≥ .015%.

2. Any demonstration of compliance with the limits in subdivision C 1 of this section shall be on a daily basis.

3. For the source types and sizes listed below, a demonstration of reasonably available control technology is not required as provided in 9 VAC 5-40-310 B.

a. Any steam generating unit, process heater or gas turbine with an annual capacity factor of less than 5.0%, except that three months following any calendar year during which the capacity factor is 5.0% or greater, the facility shall be subject to 9 VAC 5-40-310 A or B, as applicable, and the owner shall comply with 9 VAC 5-40-310 D or E, as applicable, except the compliance date shall be two years after approval of the schedule by the board. Time periods during which a stand-by unit is used

REGULATIONS FOR THE CONTROL AND ABATEMENT OF AIR POLLUTION
(9 VAC 5 CHAPTERS 20 AND 40)

to provide replacement services for a unit being altered to comply with the provisions of 9 VAC 5-40-310 A or B shall not be used as the basis for a determination that the stand-by unit exceeded the annual capacity factor criteria of 5.0%.

- b. Any stationary internal combustion engine with a rated capacity of less than 450 hp of output power.
- c. Any incinerator with a maximum capacity of less than 50 tons of waste per day.
- d. Any incinerator or thermal or catalytic oxidizer used exclusively as air pollution control equipment.
- e. Any generator used solely to supply emergency power to buildings during periods when normal power supplies are interrupted and during periods of scheduled maintenance.

CERTIFICATION

REGULATION 9 VAC 5 CHAPTERS 20 AND 40, REVISION D03

CONCERNING

REGULATIONS FOR THE CONTROL AND ABATEMENT OF AIR POLLUTION
(9 VAC 5 CHAPTERS 20 AND 40)

NORTHERN VIRGINIA OZONE NONATTAINMENT AREA RECLASSIFICATION

I certify that this regulation is full, true, and correctly dated.

Signature: _____

Name of Certifying Official: Robert G. Burnley

Title: Director

Agency: Department of Environmental Quality

Date: _____